

Vaccinium boreale

Status

Federal status: G4 N3, Not listed

NH state status: S3, Candidate; proposed for threatened status (5/03)

ME state status: S2, Threatened

NEPCoP Division 1, globally rare taxa occurring in New England (Brumback and Mehrhoff et al. 1996). Some sources indicate that U.S. populations are subject to genetic swamping (by hybridizing with *V. myrtilloides*) and hiker pressure, which suggests that the populations may be on the decline in quality, if not quantity. However Canadian populations, which are the majority, do not face these concerns and therefore globally species is likely stable.

The outcome for *Vaccinium boreale* is locally a B, and probably an A farther north. This species appears to be expanding because it is being recognized in more places, but this is an artifact of nomenclatural issues not necessarily a real increase. The outcome in the future should be the same as the current outcome.

Distribution

Newfoundland, Labrador, Quebec, Cape Breton and Gaspé, south to the high mountains of Maine, New Hampshire, Vermont, and New York. Some identify the U.S. occurrences as disjunct.

In New Hampshire, 12 extant and three historic occurrences are documented from Sargents Purchase, Shelburne, Beans Purchase, Beans Grant, Thompson and Meserve, Low and Burbanks, Success, Franconia, and Lincoln. All are on the WMNF except one extant in Franconia, one extant in Success, and one historic in Shelburne. In Maine, ten occurrences are documented from Piscataquis, Washington, Franklin, Somerset, Oxford, and Hancock Counties. The Oxford County occurrences are in Grafton Township and Newry, neither of which is in the WMNF.

Habitat

In northern New England, *Vaccinium boreale* typically occurs in exposed alpine and subalpine situations. It also occurs on the coast in Maine. It is a species of the dry/mesic heath meadow system of alpine communities in NH. This species is also found in the subalpine heath krummholz, where it is probably found in the spaces between krummholz patches, and may be a component of the snowbank/wet meadow/streamside community system and bare rock subalpine summit communities.

Vaccinium boreale is found in very acidic situations so nutrient availability is not a limiting factor. Wind disturbance is probably useful to *Vaccinium boreale*, which is usually found in windswept locations.

The dry/mesic heath meadow system is associated with unconsolidated gravel-stony soils and convex landforms that are more exposed. It forms a large and widespread patch matrix in the Presidentials. Lesser summits have these systems in small patches. Habitat features that are important in providing viability of the dry/mesic heath meadow system include those factors associated with exposure to the elements, especially in winter. The

key factors are cold, wind, and snow and ice blast. Other factors include dry to mesic moisture conditions, well-drained sites, thin acidic soils, and dessication and low nutrient tolerant plants.

Limiting Factors

In the United States, there is so much hybridization with *V. myrtilloides* that few, if any, pure populations remain, and *V. boreale* could disappear as a species in 200-300 years. United States populations are also threatened by hiking pressure/disturbance, and recreational development. This species is a prostrate shrub that does not tolerate excessive trampling. At least one WMNF occurrence is near a large trampled zone and trail that is not well defined, which may indicate high risk of trampling.

Human disturbance also is the primary threat to the dry/mesic heath meadow system. Hiker pressures on the system include direct trampling along trails and in areas without trails, typically ridges and peaks, where hikers go “view seeking”.

Global warming and acid deposition may threaten the dry/mesic heath meadow system, though the threat from these factors is likely minor compared to other factors such as hiker pressures.

Viability concern

WMNF contains 91% of New Hampshire population. National ranking of N3 and known occurrence make it an automatic Regional Forester’s Sensitive Species for WMNF. Primary threat is from recreational use, which is a Revision issue and can be managed by the Forest.

Management activities that might affect populations or viability

The activity with potential to impact this species that the WMNF has some control over is trampling by hikers and other recreationists. Management that would reduce the density of trails in the alpine and subalpine zone and help keep hikers on designated trails would reduce the potential for trampling.

Trail construction or other development in the alpine zone and on lesser summits could affect this species if it would directly impact, or increase human traffic near, suitable habitat. Trail maintenance activities could alter habitat suitability or directly impact individuals.

References

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